

**Nakamichi**

**Program Timer DS-200**

Operating Instructions

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## WARNING

TO PREVENT FIRE OR SHOCK  
HAZARD, DO NOT EXPOSE THIS  
APPLIANCE TO RAIN OR MOISTURE.

A record of the serial number will help you in the event of insurance claims, shipping or warranty service. Record the serial number (embossed on a plate on the rear panel of the unit) in the space provided below.

Model Number: DS-200

Serial Number: \_\_\_\_\_

## Contents

Control Functions .....	1, 2
Precautions .....	2
Display Functions .....	3
Using the DS-200 Program Timer .....	4, 5, 6, 7, 8
Setting the Time of Day .....	4
Using the Automatic Timer .....	5, 6, 7
1) Unattended Recording of Radio Broadcasts .....	6
2) Using the DS-200 for Wake-up .....	7
Using the Sleep Timer .....	7
Using the Automatic Timer and Sleep Timer Simultaneously .....	8
Special Uses of the DS-200 Program Timer .....	8
Specifications .....	8

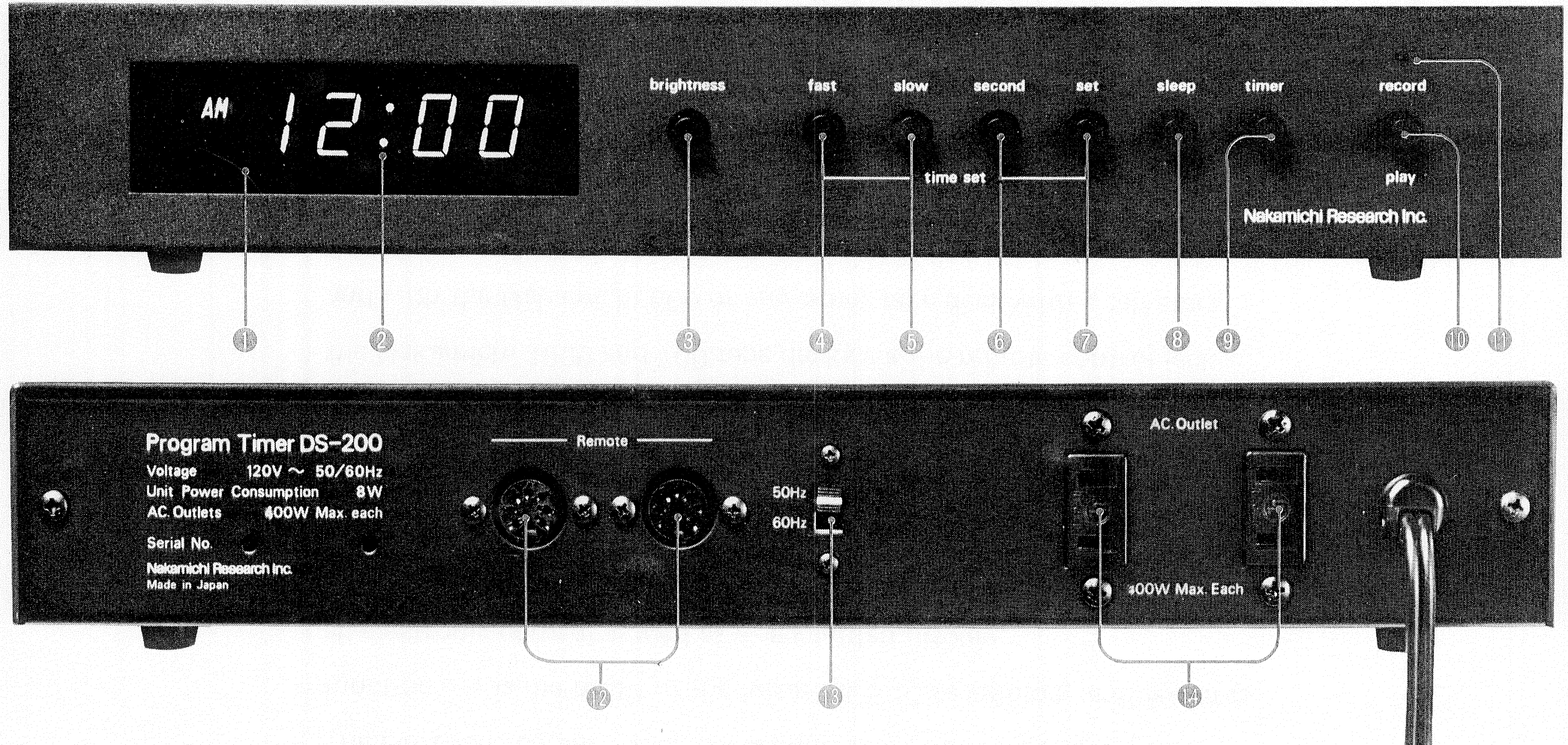
The DS-200 Program Timer is a sophisticated device capable of many functions. It is the result of the latest MOS IC technology and features all-electronic control as well as a segmented display.

The timer allows unattended recording of radio broadcasts and sleeping or waking to your tuner or tape deck in addition to functioning as a very accurate digital clock. It is designed to work in conjunction with the Nakamichi 1000 and 700 tape decks via the remote control jacks, and with the Nakamichi 600 or any other tape deck with a self start feature.

Please read the following operating instructions thoroughly before attempting operation of the Program Timer.

**Nakamichi Corporation**

# Control Functions



## 1 DISPLAY

Gives a digital readout of the time of day, automatic timer setting and remaining sleep time as selected.

## 2 TIMER INDICATOR (COLON)

Colon flashes to indicate automatic timer mode.

## 3. BRIGHTNESS

A push-on/push-off pushbutton switch that controls the brightness of the segmented display; the display dims for nighttime use when the button is in.

# Precautions

## 4 FAST

A momentary contact pushbutton switch (releases unless held down) that advances the displayed time at a rate of one hour per second when the timer is in the "Set" mode.

## 5 SLOW

Same as the "Fast" button except the rate of advance is two minutes every second.

## 6 SEC

A momentary contact pushbutton switch that causes the display to show seconds.

## 7 SET

A momentary contact pushbutton switch that allows setting and displaying of the time of day, start time and sleep time.

## 8 SLEEP

A push-on/push-off switch which, when depressed, turns "off" the AC power to all connected units after a pre-determined time period.

## 9 TIMER

A push-on/push-off switch that programs the system to turn "on" and begin recording or playing at a preset time.

## 10 RECORD/PLAY

Selects record or play mode for the automatic timer with Nakamichi models 1000 and 700

only; has no effect when the timer is being used with the 600 only.

## 11 RECORD INDICATOR

Lights to indicate that the timer is in the record mode; when lit, the timer will automatically put the Nakamichi 1000 or 700 into the record mode at the preset time.

## 12 REMOTE CONTROL SOCKETS

Used to connect the Program Timer to the Nakamichi 1000 or 700 via the provided connecting cable; the Nakamichi 1000/700 Remote Control may be connected to the remaining socket to permit parallel control.

## 13 LINE FREQUENCY

Selects 50 or 60 Hz AC power

## 14 A.C. OUTLETS

Two outlets with a total power rating of 800W, components to be controlled by the Program Timer are to be plugged into these outlets.

1. Make sure the total power consumption of all components plugged into the Program Timer is less than 800W.
2. Make sure the proper frequency has been selected with the rear panel switch.
3. Avoid severe extremes in temperature and excessive vibration as these will affect the accuracy of the Program Timer.

# Display Functions

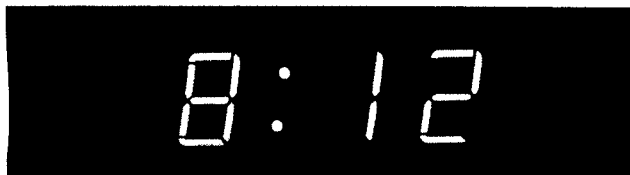
The timer may be set to show one of four displays:

1. Time of Day — Under normal conditions (when no other function buttons are depressed) the display shows the time of day. Time shown will be in hours and minutes with an indication of AM or PM.



EXAMPLE: 12:28 A.M. (28 minutes past 12 midnight)

2. Time of Day in Seconds — When the "Sec" button is depressed, the display shows seconds past the minute of the time of day. If one were to press the "Sec" button in the above example, a typical reading may be 8:12 , and this is read as 12:28 AM and 12 seconds.  
(Depressing the "Sec" button will always give the seconds for the time of day regardless of whether the "Timer" and/or the "Sleep" button is "on".)



3. Sleep Time Remaining — Depressing the "Set" button while the "Sleep" switch is "on" will cause the display to show the remaining sleep time in minutes.



EXAMPLE: :58 (58 minutes before shutdown)

4. Start Time — Depressing the "Set" button while the "Timer" switch is "on" will cause the display to show the time for which the system has been programmed to turn "on" automatically.

Note:

- (1) The display features a power interruption warning system. In the event a power failure or other accidental power shutoff should occur, a portion of the display will signal the failure upon restoration of the AC power by alternately flashing on and off. The flashing will stop once the time of day has been reset.
- (2) When both the "Sleep" and the "Timer" switches are "on", depressing the "Set" button will cause the sleep time remaining rather than the start time to be displayed.

# Using the DS-200 Program Timer

## Setting the Time of Day

### FIRST

- double-check to make sure the line frequency is correctly set (see PRECAUTIONS);
- make sure the "Sleep" and "Timer" buttons are in the "off" position (i.e., out);
- plug the Program Timer's AC cord into a household outlet (do not be concerned about the flashing segment of the display — this is the power interruption warning system — it will stop flashing once you begin to set the time).

### 1) Begin by setting the seconds.

- a) While holding the "Sec" button down, depress the "Fast" and "Slow" buttons simultaneously. This will reset the clock to 0:00



- b) Keeping both the "Sec" and the "Slow" buttons down, release the "Fast" button. This will hold the count at zero.
- c) Using the cue from a reference time source (such as telephone, radio or television time),

release the "Slow" button when the time is exactly zero seconds past any given minute. The second counter of the Program Timer is now accurately set.

### 2) Next, set the hour and minutes of the day.

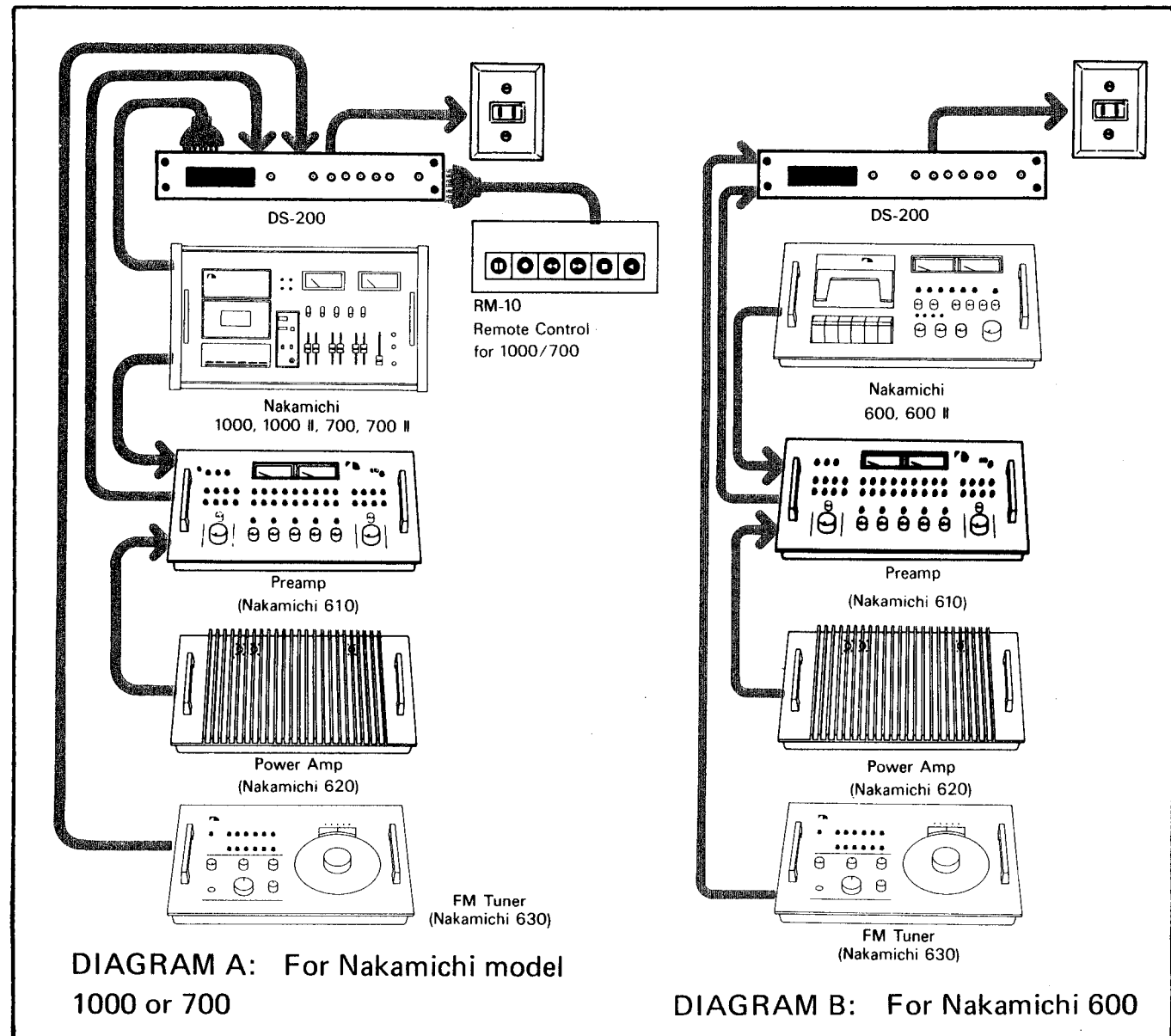
- a) Depress the "Set" button and hold it down.
- b) While holding the "Set" button down, press the "Fast" button to advance the displayed time to the hour of the day.
- c) Keeping the "Set" button down, release the "Fast" button and push the "Slow" button to advance the minutes to the correct time of day. Be sure to set the time for the proper indication of AM or PM. The clock segment of the DS-200 Program Timer is now fully set.

Note: To view the seconds at any given time, depress the "Sec" button.

## Using the Automatic Timer

The automatic timer built into the DS-200 Program Timer allows unattended radio broadcast recording and various "wake-up" functions. In the following discussion the term "start-time" will refer to the specific time at which the automatic timer will turn "on" the components plugged into the Program Timer.

All audio connections among the various components, i.e. the tuner, preamplifier, tape deck and power amplifier, should be made as usual. AC Power and remote control connections should be made as shown in the diagrams at right:





## 1) Unattended Recording of Radio Broadcasts

- a) Turn the power to all units "on."
- b) Set the controls on the preamplifier as you normally would to record an AM or FM broadcast on your tape deck.
- c) Load a blank cassette into the Nakamichi 1000 or 700 and put the Monitor switch in the "source" position. If recording on a Nakamichi 600, put it into the record/pause mode.
- d) Tune in the desired station, and set record levels on the tape deck.
- e) Set the desired start-time on the Program Timer as follows:
  - i) Push the "Timer" switch in. The Timer Indicator will flash. The AC power to the various components will be shut off, but continue to the next step.
  - ii) While holding the "Set" button in, use the "Fast" and "Slow" buttons to set the desired start-time on the display.
  - iii) When you have set the proper start-time, release the "Fast" or "Slow" button FIRST. Then release the "Set" button.

Note: Releasing the "Set" button will cause the time of day to be displayed even though the "Timer" button is in.
- f) Double-check all preamp controls and tape deck level controls. Make sure the 600 is in the record/pause mode.

- g) Since the power amplifier will not be required during the unattended recording, its power switch may be turned "off."
- h) Put the Timer into the "Record" mode by depressing the "Record/Play" button. The Record Indicator will light to show that the system is in Record mode. This step applies to recording with Nakamichi models 1000 and 700 only.

The DS-200 will turn "on" the tuner, the tape deck and the preamplifier at the desired start-time. If recording with the 1000 or 700, and if step (h) above has been properly executed, the Timer will additionally put the 1000 or 700 into "Record" at the desired start-time. To take the Program Timer out of the automatic timer mode, simply depress the "Timer" switch to the "off" position (i.e., out); the AC power to the components will be immediately restored. The next time the "Timer" switch is pushed "on," the same start-time will be in effect; but take care to repeat step (h) when using the Nakamichi 1000 or 700 because turning the "Timer" off will return it to the "Play" mode.

### Note:

- (1) It is not necessary to set the seconds when setting the desired start-time. The Timer will turn "on" the system at the exact minute. DEPRESSING THE "Sec," "Fast," and "Slow" BUTTONS SIMULTANEOUSLY AT ANY TIME, RE-

GARDLESS OF THE TIMER MODE, WILL NECESSITATE RESETTING THE TIME OF DAY.

- (2) The automatic timer will turn "off" all components one hour after the preset start-time. Maximum recording time with the timer, therefore, is one hour (one side of a C-120 cassette).
- (3) As long as the start-time is not altered, the automatic timer will turn "on" the components once every 24 hours at the same time if the "Timer" switch is left "on." The "Record/Play" button, however, must be reset to the "Record" mode after each cycle (applicable to models 1000 and 700 only).
- (4) The "Record/Play" button will not be functional unless the "Timer" button is "on." Always check the Record Indicator lamp to make sure you have placed the automatic timer into the "Record" mode (applicable to models 1000 and 700 only).
- (5) Should a power interruption occur (as indicated by a flashing segment), the start-time will have to be reset in addition to the time of day.

## 2) Using the DS-200 for Wake-up

- a) All connections should be the same as for unattended recording.
- b) Set the preamplifier for Tuner or Tape, whichever is to be the source of wake-up music.
- c) Adjust the tuner for the desired station, or load the cassette tape into the deck, and set the desired listening level.
- d) Set the automatic timer to the desired start-time (wake-up time) in the exact manner as for unattended recording (see step (e) of the preceding section).
- e) If the tuner is to be the source, turn the tape deck's power switch "off." If the tape deck is to be the source, the tuner may be turned "off." If the Nakamichi 600 is to be the source, make sure it is placed in the Play/Pause mode.
- f) Make sure the power switches for the pre-amplifier and power amplifier are "on".

Note:

- (1) If, when using the 1000 or 700 as the playback source, you inadvertently put the automatic timer into the "Record" mode (the Record Indicator lamp will be lit), you can return it to the "Play" mode simply by depressing the "Record/Play" button a second time.
- (2) To double-check the automatic timer set-

ting at any time, depress the "Set" button while the "Timer" switch is "on." This will cause the start-time to be displayed.

## Using the Sleep Timer

With the DS-200 Program Timer it is possible to listen to up to one hour of taped or broadcast music while going to sleep without worry of leaving any of the components "on" overnight. In the following discussion "sleep time remaining" will refer to the amount of time left before the system shuts down the power. Make all AC connections as shown in the diagram under "Using the Automatic Timer."

### Directions for setting the Sleep Timer

- a) Set the Preamplifier as you would for normal listening. The source may be the tuner, the Nakamichi 1000, 700 or the 600 Cassette Console (or any other tape deck with a full shut-off feature that is plugged into the Program Timer).
- b) Turn the "Sleep" switch "on" (i.e., push in). This automatically sets the sleep time remaining to 59 minutes. The system will now shut down after 59 minutes of play.
- c) It is possible to reduce the amount of sleep time remaining as follows:

- i) While the "Sleep" switch is still "on", depress the "Set" button. This will cause the sleep time remaining to be displayed in minutes.
- ii) Keeping the "Set" button down, use the "Fast" and "Slow" buttons to reduce the sleep time remaining to the desired amount. Any amount of time from 59 minutes to 1 minute may be selected.
- iii) When you have set the proper sleep time remaining, release the "Fast" or "Slow" button FIRST. Then release the "Set" button.

Note:

- (1) Should the "Sleep" switch be turned "on" when the "Timer" switch is already "on," the sleep timer will not automatically reset to 59 minutes. Turn the "Timer" switch "off," and then depress the "Sleep" switch.
- (2) If the "Sleep" switch is turned "off" in the middle of a sleep cycle and then subsequently restored, the sleep time remaining may have to be reset. Check the sleep time remaining with the "Set" button.
- (3) The "Sleep" switch may be left "on" after one sleep cycle. It will not repeat every 24 hours like the automatic timer. It must be reset before every use.

# Specifications

## Using the Automatic Timer and Sleep Timer Simultaneously

Since the automatic timer and sleep timer are independent in their action, the two may be used simultaneously. One may, for example, fall asleep while listening to music and be awakened by music from your stereo system.

Follow the directions for setting the automatic timer and the sleep timer.

## Special Uses of the DS-200 Program Timer

The accuracy and versatility of the Program Timer allow its use for several special applications, such as elapsed time counting and interval timing.

For these applications follow the directions below:

- a) Reset the clock to zero by depressing the "Fast" and "Slow" buttons simultaneously while holding the "Sec" button down.
- b) Release only the "Fast" button to hold the count.
- c) Release the "Slow" button at the start of the event. This will start the count.
- d) For short duration events, hold the "Sec" button down. For longer duration events, release the "Sec" button; the count will continue and the display will show hours and minutes elapsed.

- e) To momentarily hold the count, depress the "Sec" and the "Slow" buttons simultaneously. To resume the count, release the "Slow" button.

### IMPORTANT:

The time of day must be reset after any such special use of the Program Timer. The automatic timer setting (start-time) is unaffected and does not require resetting.

## Specifications

AC outlet: .....	400W x 2
Timer power consumption: .....	8W
Timer operation .....	12 hour basis; self-repeating
Sleep timer: .....	1 — 59 minutes
Automatic timer setting: .....	1 minute interval
Time accuracy: .....	withing 0.02 second of line frequency reference
Dimensions: .....	310(W) x 50(H) x 113(D) mm
Weight: .....	1.9 kg